

2. On the Specific Identity of the British Martens.

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[Received May 20, 1879.]

Two European species of Martens have been generally recognized by naturalists since the days of Albertus Magnus and Agricola, although some writers, including Linnæus himself, regarded them as identical. It is only of late years, however, that their specific distinctness has been finally proved; and before considering the question of the identity of the British Martens, it will be well to point out the true synonymy and diagnostic characters of the species in question, concerning which some confusion still appears to exist.

Several systematic writers, especially in Germany and America, have assigned the Linnæan title *Mustela* to the Martens instead of to the more truly typical Weasels, on the ground that this had been done by Cuvier. But the names *Putorius* and *Mustela* were only employed by the great French zoologist to mark *sous-genres*, and were not used binomially to indicate distinct genera¹. The first definite separation was made three years later by Nilsson, who gave the generic title of *Martes* to the present group²; and thus both priority and propriety sanction the restriction of the name *Mustela* to the true Weasels and Ermines. There has also been some difference of opinion as to the specific name which should properly be given to the *Mustela martes* of Linnæus. Many writers have employed *abietum*, apparently on the ground that it was used as a varietal name by Linnæus himself. This, however, is not the case: the varieties *abietum* and *fagorum* were not accepted by him; he merely says that such a distinction was recognized by the peasants³. Moreover, if *abietum* be used, the universally known name of *foina* for the allied species would have to be withdrawn in favour of *fagorum*. The earliest equivalent to *Mustela martes* appears undoubtedly to be Nilsson's *Martes sylvatica*; and the synonymy of the two species should therefore stand thus:—

I. MARTES SYLVATICA.

Mustela martes, Linnæus, Syst. Nat. (12th ed.), i. p. 67 (1766).

Martes sylvatica, Nilsson, Faun. Skand. (1st. ed.) i. p. 41 (1820).

— *vulgaris*, Griffith, Cuvier's An. Kingd. v. p. 123 (1827).

— *abietum*, Fleming, Brit. Animals, p. 14, ex Ray (1828).

— *sylvestris*, Nilsson, Faun. Skand. (2d ed.) i. p. 171, ex Gesner (1847).

¹ 'Règne Animal' (1^{re} éd., 1817), i. pp. 147, 199.

² Skand. Fauna (1st ed. 1820), i. p. 41. The genus *Martes* has been quoted by Lilljeborg and some others as instituted by "G. Cuvier, 1797;" this error appears to have originated in a misunderstanding of the French plural *Martes* in the 'Tableau Élémentaire.'

³ "Varietas duplex rusticis: *Fagorum* gutture albo; *Abietum* gutture flavo." Syst. Nat. (12th ed.) i. p. 67.

II. MARTES FOINA.

Mustela foina, Erxleben, Syst. Reg. An. p. 458 (1777)¹.

Martes foina, Nilsson, Faun. Skand. (1st ed.) i. p. 38 (1820).

— *fagorum*, Fleming, Brit. Animals, p. 14, ex Ray (1828).

The cranial and dental characters by which *Martes sylvatica* and *M. foina* may be recognized were first pointed out by Dr. R. Hensel in 1853², further elaborated by Blasius in 1857³, and recently revised by Dr. Elliott Coues in comparison with their American congeners⁴. At various times I have carefully compared the descriptions of these writers with a great number of skulls; and although many of the distinctions which they have pointed out are merely comparative, and though some of them prove to be inconstant when a large series of specimens are examined, yet I have never found the slightest difficulty in separating the species by the following external and internal characters:—

Martes sylvatica. Outer fur rich dark brown, under-fur reddish grey, with clear reddish-yellow tips; breast-spot usually yellow, varying from bright orange to pale cream-colour or yellowish white. Breadth of the skull (see fig. 2, p. 471) across the zygomatic arches rather more than half the length; the arches highest posteriorly, whence they slope rather suddenly downwards and forwards. Sides of muzzle nearly parallel; anterior opening of nares oval; postorbital process about equidistant between the frontal constriction and the anterior root of the zygoma. Palate comparatively narrow, with a distinct azygos process on its posterior margin. Upper premolars placed regularly in the line of the series; the fourth as long as the upper molar is broad, its inner cusp large and placed nearly at right angles to the axis of the tooth. Upper molar broader than long, its flattened inner portion considerably longer and larger than the outer part; in the latter the external tubercle fills the space between the anterior and posterior tubercles, so that the external outline of the tooth is simply convex, *not* emarginated. First lower molar with a slightly developed inner tubercle at the base of the main cusp.

Martes foina. Outer fur dull greyish brown, under-fur greyish white; breast-spot smaller than in *M. sylvatica*, pure white. Breadth of the skull (see fig. 1, p. 470) across the zygomatic arches much more than half the length; the arches regularly curved, broadest and highest near their middle. Sides of muzzle slightly converging; anterior opening of nares broader than in *M. sylvatica*, heart-shaped; postorbital process nearer to the frontal constriction than to the anterior root of the zygoma. Palate comparatively broad, truncated posteriorly. Upper premolars crowded, and often placed diagonally, their anterior extremities being directed inwards; the fourth considerably longer than

¹ Dr. Elliott Coues, in his 'Fur-bearing Animals' (p. 77) gives *M. foina* as instituted by "White, Phil. Trans. lxiv. 1774, 196", having seemingly been misled by some reference to Gilbert White's celebrated Monograph of the House-Martin (*Hirundo urbica*)!

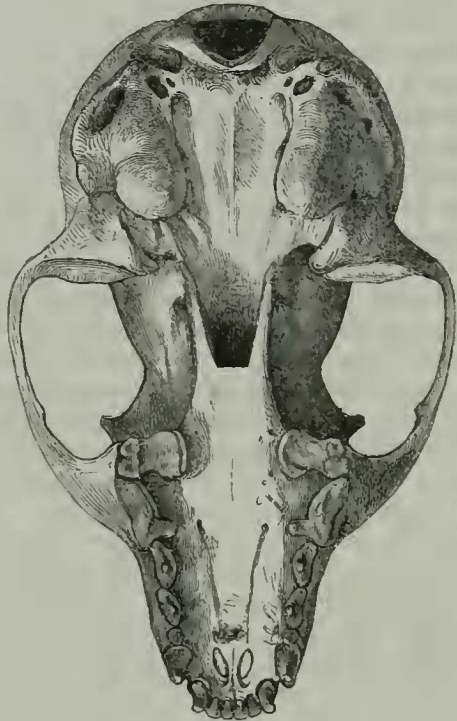
² Arch. f. Naturg. xix. i. pp. 17-22, pl. ii.

³ Säugeth. Deutschl., pp. 211-219.

⁴ Fur-bearing Animals, pp. 74-80, pls. iii., iv.

the upper molar is broad; its inner cusp smaller, and placed more diagonally than in *M. sylvatica*. Upper molar subquadrate, its flattened inner portion hardly longer or larger than the outer part, in which the external and anterior tubercles are placed close together, the external outline of the tooth being distinctly emarginated between them and the posterior tubercle. First lower molar with a well-developed inner tubercle at the base of the main cusp.

Fig. 1.

Skull of *M. foina*.

As Blasius has remarked, the differences of proportion are less conspicuous when a skull of an aged example of *M. foina* is compared with that of a young *M. sylvatica* than when individuals of the same age are contrasted; nevertheless they are always present to an appreciable degree. In his figures Blasius has represented a further distinction, in the form of the transverse ridges of the soft palate; but I have not had an opportunity of testing the constancy of this feature; nor have I sufficient materials for any original observations on the distinctive marks of the American and Siberian Martens, as to which I can only refer the reader to the descriptions of Drs. Coues¹ and Middendorff². On the whole it may be said

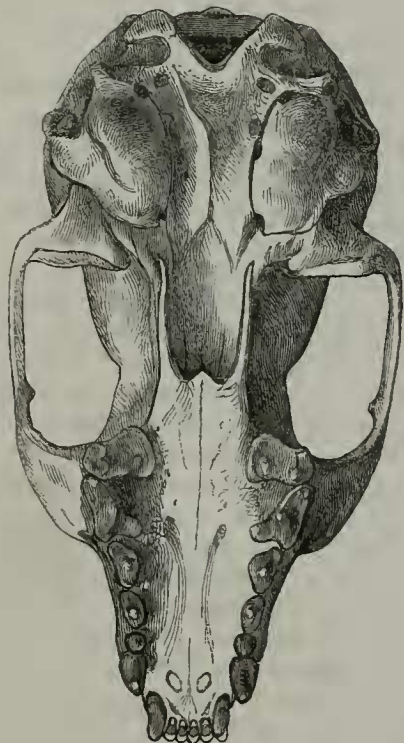
¹ Fur-bearing Animals, pp. 59-96, pls. ii., iv.

² Reise in Sibir., ii. Th. ii. pp. 68, 69, pl. ii. figs. 1-6.

that the most striking and trustworthy of the characters enumerated above are, *externally*, the colour of the under fur, and, *internally*, the comparative breadth of the skull and the shape of the upper molar¹.

Having thus cleared the ground as to the synonymy and distinguishing marks of the two European Martens, we come to the question whether both of them inhabit our own islands. Every

Fig. 2.

Skull of *M. sylvatica*.

work hitherto published on the British fauna has either stated or assumed that both forms are natives; and almost every one has represented the white-breasted *Martes foina* (the Common Marten of the Continent) as being also the prevailing species in Britain. Several, however, of our best zoologists have expressed grave doubts as to the specific distinction of the two forms, or have even denied that they could be separated as constant varieties. This will be evident from a glance at the pages of the principal writers on the subject.

¹ It should be observed that Dr. Severtzoff has stated that our European Martens are "not fully differentiated" in Eastern Turkestan, and has described some skins which he saw there as a new species, *Mustela intermedia* (Turkestanskije Jevotnie, p. 80; Ann. & Mag. Nat. Hist. 4th ser. xviii. p. 46); but as he obtained no skulls, much weight cannot be laid on his observations.

Passing over the older writers, who merely copied the accounts of Gesner and Aldrovandus, we may come at once to Pennant, who describes *Mustela foina* as "The Martin," distinguishing "The Yellow-breasted Martin" as a distinct species, of which he says that it "is found in *Great Britain*; but is much less common in *England* than the former; it is sometimes taken in the counties of *Merioneth* and *Caernarvon*, where it is distinguished from the other kind by the name of *bela goed*, or Wood Martin, it being supposed entirely to inhabit the woods, the *bela graig* to dwell only among the rocks. Though this is so rare in these parts, yet in *Scotland* it is the only kind; where it inhabits the fir forests, building its nest at the top of the trees"¹.

Pennant was followed by subsequent writers without much additional information being supplied. Thus Bingley states that the "Common Martin" is "not very uncommon in many of the southern parts of Great Britain and Ireland;" while "Pine Martins are sometimes, though rarely, observed in the wooded and thinly inhabited districts of Wales and Scotland, and two or three of the northern counties of England"².

Fleming gives the habitat of *Martes fagorum* as "In woods and rocks in the south of Scotland and England;" that of *M. abietum*, "in the wooded districts of Wales and Scotland;" but adds that "the characters of these two species are ill-defined"³.

The Rev. L. Jenyns in his excellent 'Manual' considered that *Mustela foina* was "more generally diffused" than *M. martes*, which, he says, "inhabits the fir-woods of Scotland: occurs also sparingly in the west of England"⁴.

Edward T. Bennett, then Secretary of this Society, discussed the question of the distinction of the Beech and Pine Martens in 1835, evidently inclining to the belief that they were specifically identical, and referring two British specimens then in the Society's Museum to the former and two others to the latter race⁵. What was the ultimate fate of these examples I know not; but it is to be remarked that no exact localities are mentioned, and that the supposed "Beech Martens" had "dirty-white breasts:" not improbably they were faded specimens.

Two years later appeared the first edition of Mr. Bell's standard work, in which he gave separate figures and descriptions of the two Martens, but "with the precaution of a protest against being considered as decidedly supporting the opinion that they are essentially different." No new information was here given as to the supposed distribution of the animals in this country⁶. In Scotland, however, the elder Macgillivray had better opportunities for observation, and a comparison of specimens convinced him of "the indivisibility of the species." Young specimens, he says, have yellow throats, and

¹ Brit. Zoology, 1768, i. p. 81. ² Mem. Brit. Quad. (1809), pp. 164, 169.

³ Hist. Brit. Anim. (1828), pp. 14, 15.

⁴ Man. Brit. Vert. An. (1835), p. 11.

⁵ Gard. and Menag. of the Zool. Soc. (1835), i. pp. 227-240.

⁶ Brit. Quadr. 1st ed. (1837), pp. 167-176.

are the Pine Martens of authors; while "in old individuals the whole fore-neck and part of the breast are white, or greyish white, or pale grey mottled with brownish. The yellow colour on the throat fades in specimens kept in Museums, so as at length to be scarcely perceptible"¹. In Ireland W. Thompson came to similar conclusions, observing that "all the native specimens which have come under my own notice were yellow-breasted (*Martes abietum*), with the exception of one, which had the breast white (*M. foina*), and was killed in the county of Antrim." He adds that he had long since remarked that the yellow colour gave place to white with advancing age, and explained the greater number of yellow-breasted specimens obtained by their comparative immaturity².

The author who has most recently treated of the question is Mr. Bell. In his revised second edition of the 'Quadrupeds' he fully accepts the specific distinction of the two forms, regarding which he was formerly so doubtful, and quotes a letter from Mr. R. T. Vyner, who "concludes that the Beech Marten is at present much less common than the Pine, and is, indeed, very nearly extinct in England, which is accounted for by its habit of leaving its summer haunts of woods and rocky places, to inhabit, in the winter, farm buildings, faggot-stacks, and other similar localities, and thus becoming exposed to various means of destruction. The Pine Marten, on the contrary, continues to inhabit, at all seasons of the year, its accustomed retired haunts, rarely, if ever, intruding into the immediate purlieus of human habitations"³.

It will thus be seen that the later and better-informed English faunists gradually approached agreement as to the existence of only one species of Marten in Britain, and that some of them drew the natural though erroneous deduction that *Martes sylvatica* and *M. foina* were specifically identical. The fact is, as I believe, that *M. foina* is not, and never was, a member of the British fauna. During the last ten years I have missed no opportunity of examining native Martens, and have endeavoured to trace out every supposed "Beech Marten" that I could hear of. I have thus seen a very large number of specimens from various parts of England, Wales, Scotland, and Ireland; and every one has proved to be *M. sylvatica*. The late Mr. Blyth, who paid some attention to this question, assured me, shortly before his death, that his investigations had led him to the same result; and I have been unable to find any competent observer acquainted with the true characters of the species, who has ever seen an authentic British-killed specimen of *M. foina*. Macgillivray and Thompson were certainly correct in saying that the pale-chested individuals which have usually received that name in this country are merely aged examples of the Pine Marten, or specimens which have faded in museums. Nor does there appear to be the slightest evidence in favour of Mr. Vyner's suggestion that *M. foina* has been recently exterminated in this country. Such a fate has not overtaken the species on the Continent, where it holds

¹ Brit. Quadr. (Nat. Libr. xx. 1838), pp. 166-173.

² Nat. Hist. Ireland (1856), iv. p. 9. ³ Brit. Quadr. 2nd ed. (1874), p. 212.

its own fully as well as its ally; and a subfossil skull found in Burwell Fen, Cambridgeshire, and exhibited to this Society in 1873, by Mr. J. W. Clark¹, is certainly referable to *M. sylvatica*. The true Beech Marten is undoubtedly a more southern species than its congener, finding its northern limits in Denmark and the Baltic Provinces; for Professor Lilljeborg has proved that it is not, as had been stated, a native of Sweden². Until an authentic British specimen has been produced, it must also, I think, be struck out of the lists of the British fauna.

I will conclude with a few remarks on the present distribution of the Pine Marten in Britain, much of the information being gleaned from the pages of the 'Zoologist.' Although greatly reduced in numbers by persecution, it still maintains its ground in the wilder districts of Scotland, the north of England, Wales, and Ireland, and occasionally specimens are killed in counties where the species was thought to have been long extinct. In Scotland it is still found, though comparatively rarely, in the Lews and in most of the Highland mainland counties, being perhaps most abundant in Sutherland and Ross-shire, especially in the deer-forests. In the Lowlands a Marten is now a very great rarity; but a fine example was killed in Ayrshire in the winter of 1875-76. In the north of England, Mr. W. A. Durnford says³, the species is "still plentiful;" in the wilder parts of Cumberland, Westmoreland, and Lancashire, and in Lincolnshire, several have been recorded, the latest, killed in 1865, by Mr. Cordeaux⁴. In Norfolk one was shot last year⁵; and I have myself examined a fine example, which was shot in Hertfordshire, within twenty miles of London, in December 1872. In Dorsetshire the last is said to have been killed in 1804⁶; but a specimen occurred in Hampshire about forty years ago⁷, and another in Surrey in 1847. A Marten is said, by the Rev. C. A. Bury, to have been "seen" in the Isle of Wight⁸; and one was recorded from Cornwall, by Mr. E. Hearle Rod⁹; but this proves on investigation to be an error, the specimen having been brought from North Wales, where Martens appear to be still not very rare. In Ireland the following counties were enumerated by Thompson as habitats of this species—Donegal, Londonderry, Antrim, Down, Armagh, Fermanagh, Longford, Galway, Tipperary, Cork, and Kerry¹⁰. The *Cat-crann* is probably now a rarer animal in Ireland than it was when Thompson wrote; but it still exists in various districts, especially in co. Kerry, whence the Society has received several living examples; and Professor A. Leith Adams states that it has been seen of late years even in co. Dublin¹¹.

¹ P. Z. S. 1873, p. 790.

² Sverg. og Norg. Ryggradsdjur, p. 535.

³ Zoologist, 1877, p. 291.

⁴ Zoologist, 1866, p. 242.

⁵ F. Norgate, 'Zoologist,' 1879, p. 172; J. H. Gurney, *tom. cit.* p. 210.

⁶ J. C. Mansel-Pleydell, *tom. cit.*, p. 171.

⁷ P. L. Selater, 'Zoologist,' 1845, p. 1018.

⁸ Zoologist, 1844, p. 783.

⁹ Zoologist, 1878, p. 127.

¹⁰ Nat. Hist. Irel. iv. p. 9.

¹¹ Proc. R. Soc. Dubl. 1878.